

NOTES ON BASE

This quadrangle is part of a series of topographic maps made from Viking Orbiter stereoscopic pictures suitable for photogrammetric compilation.

PROJECTION

Mercator, Lambert Conformal Conic, and Polar Stereographic projections are used for this map series. The scale of the series is 1:2,000,000 at lat $\pm 27.476^\circ$, $\pm 35.83^\circ$, and $\pm 59.17^\circ$. The projections have common scales of 1:1,952,947 at lat $\pm 30^\circ$ and 1:1,939,394 at lat $\pm 60^\circ$.

ADOPTED FIGURE

The figure of Mars used for computation of the map projection is an oblate spheroid (flattening of 1/192) with an equatorial radius of 3,395.4 km and a polar radius of 3,375.7 km.

CONTOURS

Contours were compiled on analytical stereoplotters that use stereoscopic Viking Orbiter pictures. The parameters for stereo models were computed analytically, based on the adjusted positions and orientations of the spacecraft cameras (Wu and others, 1982). Horizontal and vertical controls were established by analytical photogrammetric aerotriangulation (Wu and Schafer, 1984), using the General Integral Analytical Triangulation (GIANT) program of the U.S. Geological Survey. Primary controls used in the control network include: the Viking Orbiter Secondary Experiment Data Record, radio occultation measurements from both Mariner 9 and Viking missions (Kliore and others, 1973; Lindal and others, 1979), Earth-based radar observations (Downs and others, 1975), and the Mars primary control network of the Rand Corporation (Davies and others, 1978).

Elevation values (expressed in meters) are given with respect to the adopted Mars topographic datum. This datum is defined by a gravity field described in terms of fourth-order and fourth-degree spherical harmonics combined with a 6.1-millibar atmospheric pressure surface derived from Mariner 9 radio-occultation data (Lorell and others, 1972; Kliore and others, 1975; Wu, 1978, 1981).

Estimated elevation accuracy is approximately 1 km (one contour interval). Dashed contours are approximately located.

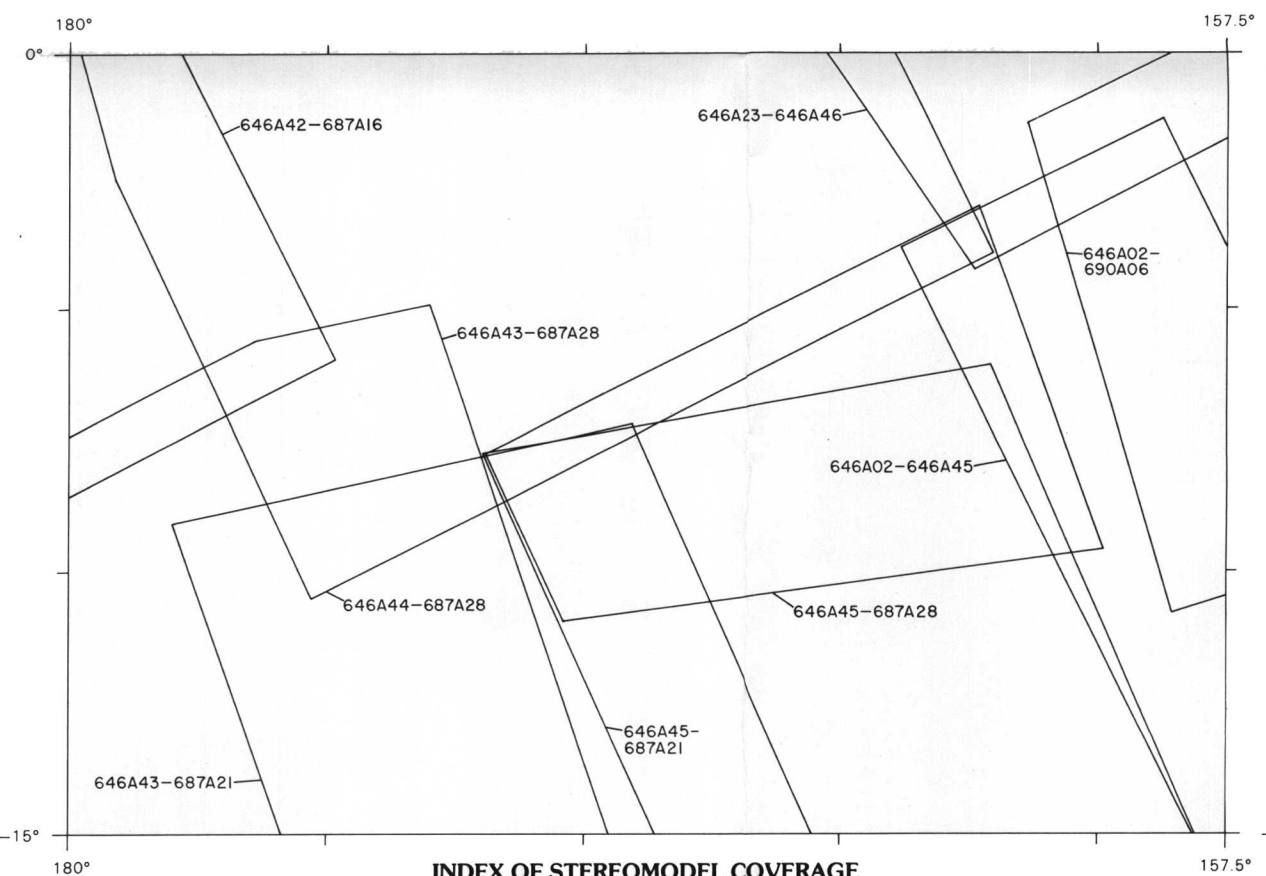
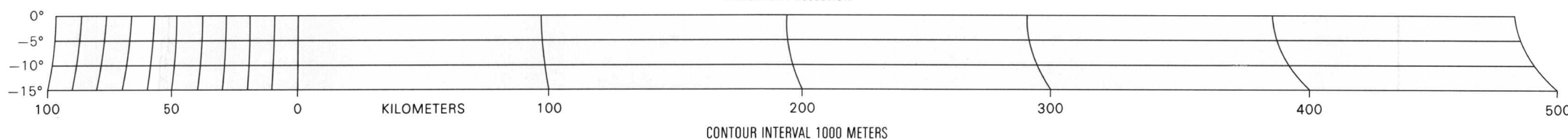
REFERENCES

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NOTE TO USERS

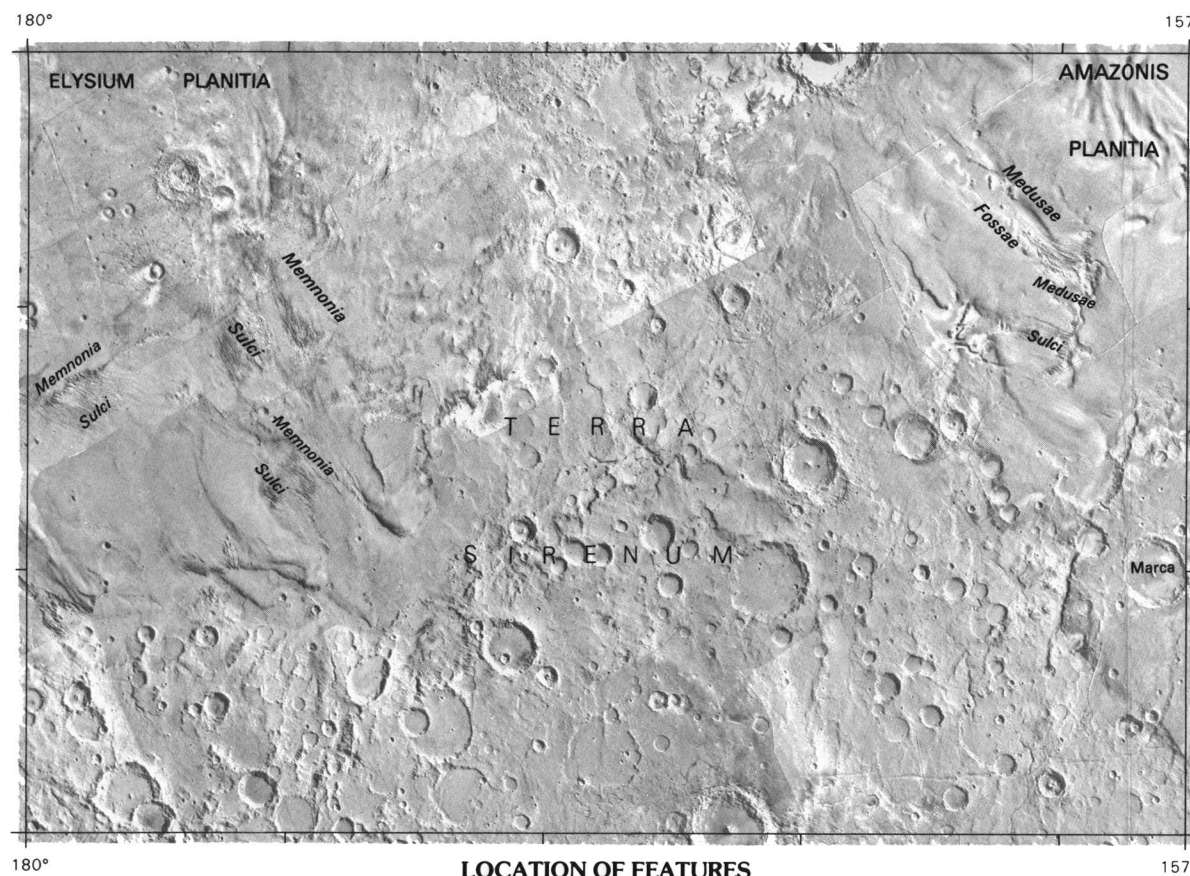
Users noting errors or omissions are urged to indicate them on the map and to forward it to U.S. Geological Survey, Building 4, Room 412, 2255 North Gemini Drive, Flagstaff, AZ 86001.

SCALE 1:2 000 000 (1 mm = 2 km) AT -27.476° LATITUDE
(SCALE 1:2 251 800 (1 mm = 2.25 km) AT 0° LATITUDE)
MERCATOR PROJECTION



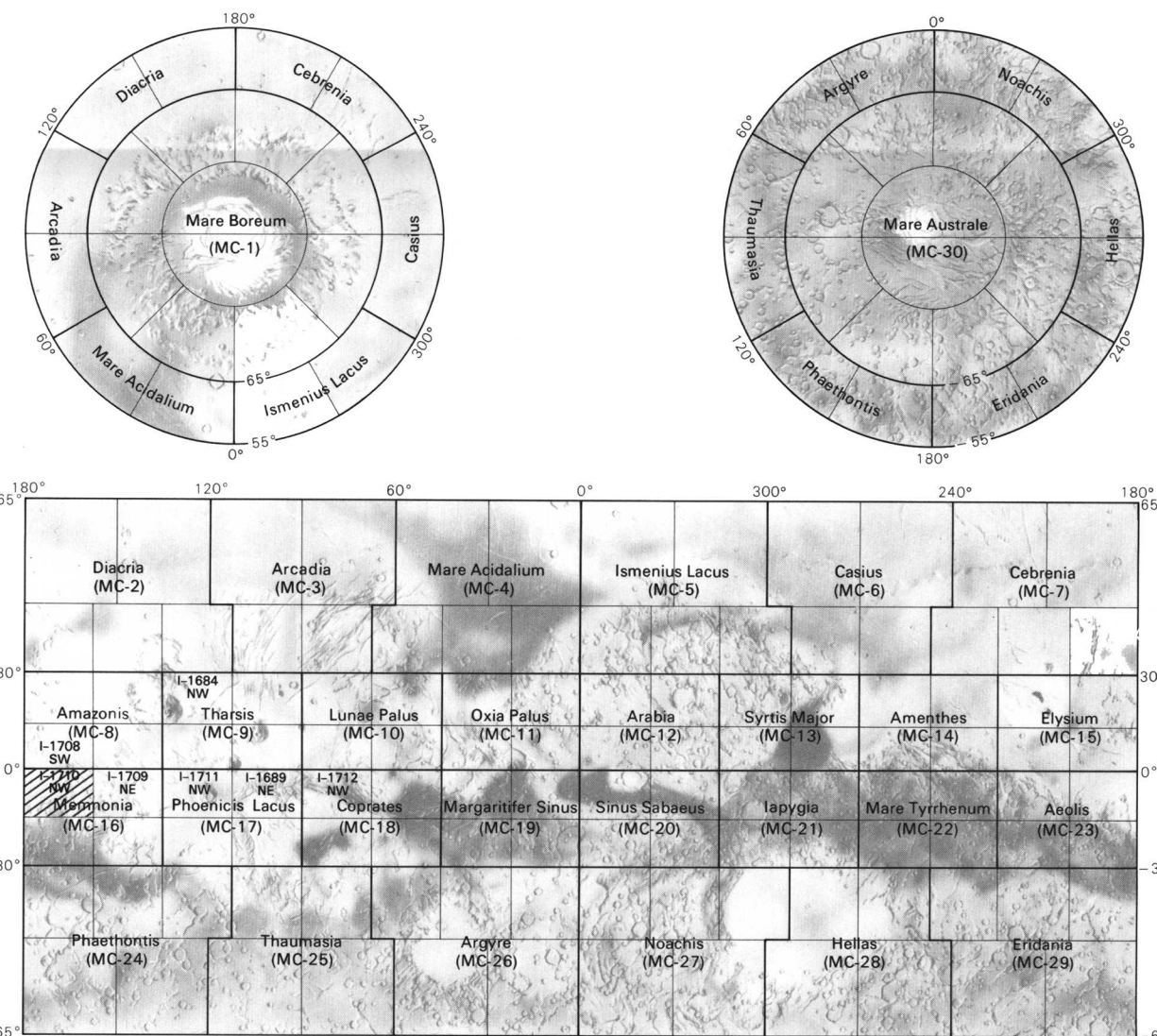
INDEX OF STEREO MODEL COVERAGE

This topographic map was made from the pairs of Viking pictures outlined above. Copies of various enhancements of these pictures are available from National Space Science Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.



LOCATION OF FEATURES

In order to emphasize the names, contrast was purposely suppressed in this reduced copy of the controlled photomosaic (I-1186) of this quadrangle. All names are approved by the International Astronomical Union.



INDEX OF PUBLISHED TOPOGRAPHIC MAPS

TOPOGRAPHIC MAP OF THE MEMNONIA NORTHWEST QUADRANGLE OF MARS

M 2M -7/169 T

MC-16 NW

1986